

REMARKS

Claims 1-10 are pending in the application. No claims are amended.

Claims 1-10 are rejected under 35 U.S.C. § 102(b) as being anticipated, or in the alternative under 35 U.S.C. § 103(a) as being obvious over U.S. Patent 3,449,434 to Stilmar or EP 0481478 (EP '478) for reasons of record.

In response to the arguments presented in the Amendment filed on October 24, 2003, that the copolymer of claim 1 is cross-linkable and the cited references do not disclose, teach or suggest the claimed fluorine-containing crosslinkable resinous copolymer having functional group, the Examiner was of the view that the term "resinous" only defines that the copolymer has a high molecular weight (and therefore does not define over the cited prior art). Further, because the references are said to disclose the required composition, the claimed characteristic properties would be inherent in the prior art compositions.

With respect to new claims 5-10 (directed to a resin composition comprising a crosslinkable fluorine containing resinous copolymer and a curing agent), the Examiner was of the view that in the presence of a curing agent, the fluorine containing resinous copolymer is necessarily crosslinked.

Specifically with respect to new claim 5, the Examiner considered that the claimed crosslinkable composition is suitable for molding or coating as taught by Stilmar.

Further, the Examiner considered that crosslinking in the comparative Examples in EP '478 is carried out with a curing agent, because the reference discloses the use of azobisisobutyronitrile and methyl vinyl ether.

Applicants respectfully traverse the rejection and reiterate that neither EP '478 nor Stilmar discloses, teaches or suggests the claimed invention.

First, contrary to the Examiner's suggestion, the term "resinous" is used as opposed to "elastomeric" or "rubbery" to indicate not only that the copolymer has a high molecular weight, but also that the copolymer is not an elastomer.

Further, as previously stated, it is respectfully submitted that the Examiner's understanding of the disclosure of EP '478 is mistaken.

The present invention relates to a fluorine-containing resinous copolymer having functional group characterized in that the copolymer is crosslinkable. The Examiner relies on a theory of inherency and asserts that the claimed characteristic properties would be inherent in the prior art compositions. However, EP '478 does not disclose a crosslinkable copolymer and therefore does anticipate the claimed invention, either explicitly or under principles of inherency.

In the Comparative Example of EP '478, 4-hydroxybutyl vinyl ether, methyl vinyl ether and tetrafluoroethylene were polymerized (not crosslinked) using azobisisobutyronitrile as a polymerization initiator. In this regard, Applicants point out that a crosslinking reaction is a reaction between polymers and is not equivalent to a polymerization reaction of monomers.

The polymer resulting from the polymerization reaction in the Comparative Example of EP '478 has a cure site at the end of the polymer due to the residue of azobisisobutyronitrile, but azobisisobutyronitrile could not act as a crosslinking agent. This is proven by the fact that while azobisisobutyronitrile was also used in Examples 1-3 of EP '478, the copolymers thus obtained were not crosslinked (gelled).

Further, the Examiner did not address the argument that the dry copolymer in the Comparative Example is completely insoluble in THF and is a crosslinked polymer, which is different from the claimed crosslinkable resinous copolymer. Material elements of the claimed invention cannot be ignored.

Some crosslinkable polymers may be cured spontaneously without a crosslinking agent as in the Comparative Example (e.g., room temperature curable polymer). However, as required by the present claims, even if a copolymer is spontaneously crosslinkable, the copolymer must also be insoluble in THF before crosslinking.

According to EP '478, a compound which inhibits a crosslinking reaction (to thereby stabilize a polymer) such as triethylamine is added in Examples 1-4, and the resulting polymers are soluble in THF. These results prove that the polymers of Examples 1-4 and the polymer before it is gelled in the Comparative Example are all soluble in THF.

Thus, in view of the above, EP '478 does not disclose, teach or suggest, explicitly or inherently, all elements of the claimed invention and therefore does not anticipate nor render obvious the claimed invention.

With respect to Stilmar, Applicants traverse and respectfully submit that the Examiner's statement regarding Stilmar (use of the disclosed composition as being suitable for molding or coating) is irrelevant. Stilmar does not disclose, teach or suggest a hydrocarbon vinyl ether compound having a functional group as recited in present independent claims 1 and 5. Namely, the monomer of Stilmar which introduces a functional group into the polymer is an ethylenically unsaturated mono- and dicarboxylic acid having from 3 to 11 carbon atoms such as acrylic acid,

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itaconic acid, undecylenic acid or a salt or anhydride, and is not a "hydrocarbon vinyl ether compound unit having functional group" as required by claim 1. Thus, the present claims are neither anticipated nor obvious over Stilmar.

In view of the above, Applicants respectfully request withdrawal of the rejections over EP '478 and Stilmar.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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